

C L A I M S

1. A wellstring assembly comprising a wellstring element, which includes

- a tubular first wellstring part having upper and lower ends between which ends a passageway is arranged;
- a second wellstring part co-operating with the lower end of the first wellstring part; and
- a releasable wellstring-interconnecting means for selectively interconnecting the first and second wellstring parts;

10 the wellstring assembly further comprising an auxiliary tool for manipulating the second wellstring part, which auxiliary tool is arranged so that it can pass along the passageway in the first wellstring part to the second wellstring part, when the first and second wellstring parts are interconnected, wherein the auxiliary tool comprises a tool-connecting means for selectively connecting the auxiliary tool to the second wellstring part, and an operating means for operating the wellstring-interconnecting means,

15 wherein the auxiliary tool comprises a first member which includes the tool-connecting means and a second member which includes the operating means, which second member is arranged movably so that it can assume a first and a second position relative to the first member,
20 wherein in the first position the tool-connecting means is connectable, at least when the first and second wellstring parts are interconnected, to the second wellstring part without operating the wellstring-interconnecting means, and wherein after connecting the

- 36 -

auxiliary tool to the second wellstring part the wellstring-interconnecting means can be operated by moving the second member including the operating means between the first and the second position.

5 2. The wellstring assembly according to claim 1, wherein the tool-connecting means is arranged near the downstream end of the first member, wherein the operating means is arranged near the downstream end of the second member, and wherein the second member is arranged longitudinally 10 slideably along the passageway with respect to the first member, so that the first relative position is an upstream position of the second member, and wherein the second member is moved relative to the first member in downstream direction when moving it towards the second 15 relative position.

3. The wellstring assembly according to claim 2, wherein the first member of the auxiliary tool comprises a substantially tubular body in which the second member is coaxially slideably arranged, wherein the closure element 20 comprises at its upstream end an outer sleeve and a coaxial inner sleeve, wherein the upstream end of the outer sleeve is arranged to cooperate with the tool-connecting means so as to lock the auxiliary tool to the outer sleeve, wherein the upstream end of the inner 25 sleeve is arranged to cooperate with the operating means of the auxiliary tool so that the wellstring interconnecting means is operated by longitudinally sliding the inner sleeve with respect to the outer sleeve.

30 4. The wellstring assembly according to any one of the previous claims, wherein the first wellstring part further comprises an operable first retainer device for securing the second member of the auxiliary tool in the

- 37 -

first relative position when the auxiliary tool is not connected to the second wellstring part.

5. The wellstring assembly according to claim 4, wherein the bit body is provided with a button which projects into the passageway and co-operates with the first retainer device so as to operate the first retainer device at a predetermined relative position between the button and the first retainer device.

10 6. The wellstring assembly according to any one of the previous claims, further comprising a selectively operable second retainer device for securing the second member of the auxiliary tool in the second relative position when the auxiliary tool is connected to the closure element while the closure element is not connected to the bit body.

15 7. The wellstring assembly according to claim 6, wherein the bit body is provided with a button which projects into the passageway and co-operates with the second retainer device so as to operate the second retainer device at a predetermined relative position between the button and the second retainer device.

20 8. The wellstring assembly according to any one of claims 1-7, wherein the wellstring assembly is a well-drilling bit assembly suitable for through-bit operation, wherein the wellstring element is a well-drilling bit, wherein the first wellstring part is a bit body attachable at its upper end to a tubular drill string, and wherein the passageway extends between an opening at the upper end and the exterior of the bit body; wherein 25 the second wellstring part is a closure element for the passageway; and wherein the wellstring interconnection means is a bit-connecting means for releasably connecting

- 38 -

the closure element to the bit body so as to selectively close the passageway.

9. The wellstring assembly according to any one of claims 1-7, wherein the second wellstring part comprises a wellstring having upper and lower ends, which upper end is arranged to co-operate with the auxiliary tool and which lower end is attachable to a well-drilling bit.

10. The wellstring assembly according to any one of claims 1-9, wherein the passageway and the auxiliary tool are provided with co-operating angular orienting means.

11. The wellstring assembly according to claim 10, wherein and wherein the first well string part and the auxiliary tool are provided with the co-operating two-way orienting means for angularly orienting the auxiliary tool at a first relative position when moving downwardly along the passageway, and at a lower second relative position when moving upwardly again along the passageway.

12. The wellstring assembly according to claim 11, wherein the auxiliary tool at its outer wall is provided with an outwardly projecting key means, wherein the inner wall of the passageway in the first wellstring part is provided with two guiding rims forming a central guiding groove through which the key can pass, the guiding groove having upstream and downstream ends, further with an

25 upstream camming rim extending from a position upstream of the guiding groove to the upstream end of the guiding groove fully around the inner wall, and with a downstream camming rim extending from a position downstream of the guiding groove to the downstream end of the guiding

30 groove fully around the inner wall, wherein the camming rims and the guiding rims project sufficiently into the passageway so as to engage, when the auxiliary tool is moved through the first wellstring part, the key means

- 39 -

and to guide the key means into the guiding groove,
thereby angularly orienting the auxiliary tool.